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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Yl. NATIONAL PARK

FILE COPY

FILE NO.143

M O N T H L Y
R E P O R T
FOR
JULY 1923.

(JULY - 1923)

August 7, 1923

Dear Sir:

The following is my report on conditions in the Yellowstone National Park and on the operation of the park for the month of July, 1923:

I. GENERAL CONDITIONS

In our June report we gave travel figures that indicated that there would be a tremendous increase in the number of visitors to Yellowstone Park this summer. During July all travel records were broken except the record for number of visitors brought to the park in a single day by rail. Last year's record in this respect still holds. The travel reports attached to this report give some very interesting figures which I trust you will have time to read. It looks at this writing as if the total travel for the season will be approximately 135,000.

Roads

While June was an unusually wet month, July, until well after the middle of the month, was very dry. The roads became so dry and hard that it was quite impossible to grade them, and gravel thrown in chuckholes could not pack and become a part of the permanent road. This gravel was usually very quickly thrown out by passing cars. The wind also had an effect on the surface of the road in blowing the top dressing off.

By the first of August the roads in the park were in poorer condition than at any time since early in the season of 1921. I should, however, state that certain sections

of some of the approach roads are in better condition than ever before. This is due to the fact that they have been gradually getting better under maintenance that they did not have in previous years, and because there has not been the concentration of travel on them that the loop road has suffered. When you take into consideration that up to the first of August 14,706 cars had used the roads this year as compared with 9,307 a year ago, not to mention the tremendous increase of operations of the busses of the Yellowstone Park Transportation Company, you can realize the wear and tear on the roads. It is most discouraging to be informed that in spite of this enormous use of the parks our estimates for next year cannot be increased and that we are not to have any money for new road improvements.

I wish to present here a warning that unless something can be done to better the roads in these National Parks and even in the Yellowstone, there is going to be criticism of the Department of the Interior such as it has never had before. This will be very regrettable because it is the Bureau of the Budget and Congress, and not the Department, that will be to blame for the situation.

Yellowstone's magnificent system of roads that for two years has been the subject of hundreds of compliments is deteriorating rapidly and although the best possible maintenance work is being done the deterioration cannot be stopped. The only remedy lies in an appropriation of sufficient money to give the roads a more permanent surface. This may take the form of heavier gravelling and then oiling, or perhaps it may be necessary to go to some form of bituminous macadam.

On July 22nd peculiar weather conditions brought about cloudbursts and deluges of rain that threatened for a time to close our road system. A storm started in the western part of the park, crossed over the central part and leaving the eastern section about the middle of the East Boundary, continued through the mountains north of our Cody road to a point some twenty miles east of the park line, thence it crossed to the mountains between the North and South Forks of the Shoshone and reached its climax on Ptarmigan Mountain.

At about 4:30 o'clock the first cloudburst occurred near Madison Junction on the mountain opposite National Park Mountain. Two great slides of rock and debris were carried into the main loop road, stopping all of the afternoon traffic to Old Faithful and West Yellowstone, including the busses bound for the evening trains.

Traffic had to be routed over the old Mesa road abandoned in 1919. A crew working nearly all night cut through one of these slides and built a detour around the other so that by the morning of the 23rd that part of the loop system was open.

Passing across the park from Madison Junction about five o'clock the storm struck on Mt. Washburn and a small cloudburst caused the tearing away of a fill over a culvert, stopping traffic on the Dunraven Pass road. This break was made passable the same evening but permanent repairs have not yet been completed.

Leaving the park between five and eight o'clock the storm raged from the mountains north of the Cody road, bringing many slides into the highway and destroying the bridge over Gunbarrel Creek. Between eight and nine o'clock the storm crossed to the mountains south of the road and great cloudbursts occurred on Ptarmigan Mountain, causing terrific damage in the valleys of Canyon Creek, Clocktower Creek and the Elk Fork. The bridges over the former creeks were torn away and the road for a long distance on each side of the bridge was filled with rocks and debris to a depth of several feet. At one place there was eight feet of rocks and debris in the middle of the road. Enormous trees were torn up by the roots and carried down into the Shoshone River.

The big, and very expensive, bridge over the Elk Fork was nearly lost. The eastern approach to the bridge was attacked by the flood waters and nineteen feet of the fill destroyed. The concrete abuttment supporting the eastern end of the bridge was undermined and one end dropped approximately eighteen inches. It will cost approximately $5000 to repair the damage to this bridge and its approaches.

A part of the great log and rock crib built a few year ago under a deficiency appropriation of $3000 was destroyed. The bridge over Clocktower Creek was destroyed. The Canyon Creek left its regular course, cut through a hillside and flooded our road almost on the Forest Reserve line. A new bridge must be built over this new channel.

We therefore had four bridges to replace temporarily, not to mention the clearing away of scores of slides. I am proud to state that our Engineering Department, in spite of the most discouraging difficulties, had traffic going over

the Cody road about twenty hours after the great washouts occurred, a record, I think, that has not been exceeded heretofore in the National Parks.

It is fair to state, however, that we secured very fine cooperation from the citizens of Cody. The Transportation Company furnished cars to carry a large number of people from Cody to the Canyon Creek washout.

The total damage of the storm will require for repairs a deficiency appropriation of not less than $15,000. and when all the damage is estimated it may run to $20,000. The full report in support of the deficiency estimate will be submitted in a few days.

Weather

The monthly Meteorological Summary furnished by the United States Weather Bureau for July is attached to this report. The following weather records are quoted from the same source, furnished by the local Observer:

Temperature: Monthly mean, 64.0°, is 2.5° above normal, and the warmest month since July, 1919. The maximum temperature, 89° on the 20th, is, with the exception of 91° on July 10, 1919, the highest temperature recorded in any month during the past 20 years.

Precipitation: Total, 0.95 inch, is 0.23 inch below normal. Frequent thundershowers occurred.

Snowfall: None.

Wind: Average hourly velocity 6.5 miles; normal 6.9. The maximum velocity was 37 miles from the south on the 30th.

Sunshine: Percentage of possible, 75, is slightly above the average for July. There were six days with 100% of sunshine.

Labor and Supply Market

There has been a shortage in labor which has handicapped us to a considerable extent. It has been very difficult to get good common labor and it has been almost impossible

to get cooks. At the present time nearly all of our crews are short and we are in dire straits at the Buffalo and Slough Creek ranches, where we need more men to put up hay. We have a prospect of an unusually heavy hay crop but we may lose considerable because of our inability to find men to help harvest the crop and put it into stacks.

I have visited the Buffalo Ranch recently and have ridden through all the hayfields and I have never seen finer fields than some of these are. It will be a pity if we cannot harvest the hay crop.

We have nothing serious to complain about in the matter of procuring supplies except that we cannot get delivery. This is particularly true in the matter of equipment and supplies for use in building comfort stations and for use in other sanitation work. We are also having difficulty in getting delivery on electrical supplies.

Crop conditions in the adjoining states are good and difficulty is being found in procuring labor with which to harvest the crops. In the Jackson Hole, which I visited recently, I found the ranchers in a serious plight, most of them having their ranches very heavily mortgaged and there seems to be no prospect of their redeeming their places. They have a fair hay crop but it is going to be very difficult to harvest it. Most of the dude ranchers, that is, ranchers who cater to tourists in the summer months and no longer depend upon cattle in the utilization of their ranges are having a fair season. Some ranches are full to overflowing, including Holm Lodge, on the North Fork of the Shoshone; the Valley Ranch, on the South Fork of the Shoshone; and the Bar B C Ranch in the Jackson Hole.

Travel

A very complete summary of travel for the month of July and the entire season is found in the following paragraphs, issued under date of August 1st as a Memorandum to the Press, and distributed throughout the entire country:

Mid-season finds Yellowstone National Park enjoying the banner year of its history. Attendance is running a third heavier than ever before, there have been more delebrated visitors than in any previous year, and every condition has been favorable to the maximum enjoyment of the park.

The total travel to August 1st was 73,293 persons, compared with 51,570 persons to the same date in 1922 and 42,195 in 1921. The rail travel was 23,143 compared with 17,735 last year and 12,717 in 1921.

Motor travel to August 1st was 49,369 persons in 14,706 cars compared with 33,602 persons in 9307 cars last year and 28,883 persons in 8130 cars in 1921.

By entrances the travel this year has been as follows: Northern Gateway, 23,311; Western, 24,279; Eastern, 18,821; Southern, 6,882.

The favored automobile entrances were the Gardiner Gateway, with 4974 cars; and the Eastern with 4376. Through the Western entrance came 3330 cars and through the Southern 2026. Arrivals at the south entrance were increasing rapidly toward the end of the month. The southern entrance established a record for automobile entrances at a single gateway on July 29th when 177 cars entered with 600 passengers. This heavy travel was due in part to erroneous reports in circulation alleging an impassable condition of the eastern road to the park.

Rail travel to August 1st by entrances was as follows: Gardiner Gateway, 6711; Western, 12,430; Eastern, 3946; Southern, 56.

The greatest day's travel in the history of Yellowstone National Park was July 18th when 2,556 persons entered. The record of the previous year, made July 23rd, was 1,983. So far during the present season there have been twelve days when more than 2,000 visitors arrived.

The greatest number of automobiles and passengers entering the park on a single day was 475 cars with 1,623 passengers on July 17th. Last year's record was 337 cars with 1,181 passengers on August 7th.

The tremendous travel to the Yellowstone Park this season is not difficult to explain.

Besides being the objective of a great number of motorists, the park is in the route of thousands of cars going to and from the Pacific Coast. The volume of transcontinental automobile travel is unparalleled in history.

Second, the visit of President and Mrs. Harding and the Alaska party attracted national attention to the park.

The visit of a large Congressional party also stimulated wide interest.

Third, there seems to have occurred a general redirection of interest on the part of Eastern tourists from Europe to Western America. Attendance of visitors from both Eastern and Southern states is far heavier than ever before. It is significant that the press of the entire country is giving generous attention to the Yellowstone, as well as other national parks.

Fourth, the enjoyment of the park seems to have become democratized. The visitors represent every class of travelers, including great numbers of mechanics and farmers arriving in their own cars. A recent party included forty printers of New York City. Horseback parties of society girls from Eastern cities have shared the roads with groups of Boy Scouts from the towns of neighboring states.

Of course the park itself has been the chief motive inspiring the majority of its visitors. Old residents here do not recall a time when the Yellowstone region was more beautiful. Late spring rains and recurring showers have left the park greener and more abundant with wild flowers at this date than ever before.

The Yellowstone bears too have done a tremendous service in promoting enjoyment of the park and encouraging further attendance. Bears this year have been more numerous than at any time since 1919, when because of excessively cold weather many of them left the park area and were killed by hunters. Many of these bears have appeared regularly on park highways, "holding-up" automobiles for sugar and bacon rinds, and permitting themselves to be photographed at the leisure of the photographer. President Harding himself made the acquaintance of a mother bear and her cub while here.

The maintenance of the park highways under the extraordinary traffic has been accomplished in a satisfactory manner. The roads were in perfect condition when the season opened and a crew of several hundred men has labored continually to keep them in shape. It is apparent to park officials that the future increase of automobile travel will render advisable the widening and improvement of present highways at many points.

The transportation, hotel and camps companies and other concessionaires which cater to visitors have all fulfilled the requirements of the extraordinary travel. Some idea of the immensity of their task may be derived from the fact that toward

the end of June there were from twelve to fifteen thousand persons within the park. Of course, a majority of these, camping in the public automobile camps, made their own living arrangements.

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Incorporated in this report are two travel statements - one, the Chief Ranger's Travel Report for July, 1923, and the other, July 1923 Comparative Figures with 1922 and 1921.

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DEPARTMENT OF THE INTERIOR.

NATIONAL PARK SERVICE—YELLOWSTONE NATIONAL PARK.

CHIEF RANGER'S MONTHLY TRAVEL REPORT, MONTH OF July, 1923

	NORTH.		WEST.		EAST.		SOUTH.		ALL TRAIL ENTRANCES.		SUMMARY.	
	Cars.	People.	Cars.	People.	Cars.	People.	Cars.	People.	Horses.	People.	Cars.	People.
Automobile permits issued	3346	11,109	2484	9106	3350	11,294	1924	6465			11,104	37,974
Automobile permits issued (complimentary)	8	41	1	4	3	9	—	—			12	54
C[illegible] entering second time	103	334	34	144	77	277	13	42			227	797
Motor-cycle permits issued	20	30	6	10	7	13	6	8			39	61
Total	3477	11,514	2525	9264	3437	11,593	1943	6515			11,382	38,886
Passengers in horse-drawn vehicles												
Passengers on horseback		98		64		186		23		Cooke City Pack Trains 36		407
Passengers on bicycles												
Passengers on foot (Other Transportation)	3477	11,612	2525	9328	3437	11,779	1943	6538		36	11,382	39,293
Total incoming passengers with private transportation												
WITH HIRED TRANSPORTATION.												
Yellowstone Park Transportation Co												
Total incoming passengers with hired transportation		5,234		9774		3,312		39				18,359
TOTAL INCOMING PASSENGERS	3477	16,846	2525	19,102	3437	15,091	1943	6577		36	11,382	57,652

Total automobiles in public camping grounds .....

Total automobile campers in public camping grounds .....

Total passengers Cooke City stage .....

Total visitors Cave Falls—Bechler River Region .....

SEASON TOTAL END OF LAST MONTH	3,324	15,641
SEASON TOTAL TO DATE	14,706	73,293

Department of the Interior
National Park Service
Yellowstone National Park

1923 COMPARATIVE TRAVEL FIGURES WITH 1922 AND 1921
SEASON TO JULY 31ST, INCLUSIVE

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ENTRANCE	RAIL (People) Hotels	Camps	Total Rail	MOTOR Cars	People	MISC. People	TOTAL
North	3503	3208	6711	4974	16191	409	23,311
West	7559	4871	12430	3330	11730	119	24,279
East	1916	2030	3946	4376	14645	230	18,821
South	33	23	56	2026	6803	23	6,882
Total	13011	10132	23143	14706	49369	781	73,293

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ENTRANCE	RAIL (People) Hotels	Camps	Total Rail	MOTOR Cars	People	MISC. People	TOTAL
North	3006	2740	5746	2969	11060	215	17,021
West	5252	3859	9111	2656	9374	310	18,795
East	1333	1509	2842	2970	10022	264	13,128
South			36	712	2546	44	2,626
Total	9591	8108	17735	9307	33002	833	51,570

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ENTRANCE	RAIL (People) Hotels	Camps	Total Rail	MOTOR Cars	People	MISC. People	TOTAL
North	1893	1869	3762	2766	10110	285	14,157
West	4481	2506	6987	2409	8575	146	15,708
East	856	1112	1968	2561	8843	138	10,949
South				394	1355	26	1,381
Total	7230	5487	12717	8130	28883	595	42,195

TRAVEL RECORDS BROKEN IN 1923

Greatest day's travel in history of park, 2,556 July 18th; previous years' record 1,983 on July 23, 1922.

In 1923, twelve days with over 2,000 visitors.

Greatest number of automobiles and passengers entering park on single day 375 cars and 1,623 passengers on July 17th; last year's record 337 cars, 1,181 passengers on Aug. 7th.

Largest number of autos and passengers entering by single gateway, at South on July 29th when 177 cars carrying 600 passengers entered. Last year's record 126 cars and 437 passengers at East on Aug. 7th.

SUMMARY OF JULY TRAVEL

Total travel of season 73,293 - Last year 51,570 - Gain 21,723.
Total travel for July, 57,652 - Last year 38,454 - Gain 19,108.
Total travel by rail for July, 18,360 - Last year 12,645 - Gain 5,715.
Auto & Misc. travel for July, 39,292 - Last year 25,792 - Gain 13,500.

II. PERSONNEL

On July 1st there were 110 appointees on the payrolls and on July 31st there were 109. The following list shows the number of appointees of various classes serving during the month, with a general statement of the kind of work in which they were engaged:

No.	Class	Kind of work performed
1	Superintendent	General administration and supervision of all activities in the park.
1	Asst. Superintendent	Administration, purchasing, disbursing.
2	Asst. Engineers	1 in charge of engineering work in park, 1 assisting.
7	Clerks	1 Financial clerk; 1 Cost Accounting Clerk; 1 Personnel, File and Report Clerk; 1 clerk on orders, proposals and vouchers; 1 Time and Payroll Clerk; 2 stenographer-typists on stenographic work for superintendent.
3	Electricians	Operated power plant regular shift, including Sundays, read meters, did necessary line work.
3	Foremen	1 in charge of headquarters corral and work on lawns; two on roads and construction work; one on wagons and sprinkling system.
1	Telegrapher	Sent and received all Government Western Union messages, operated one shift on telephone switchboard.
2	Telephone Switchboard operators	Operated telephone switchboard daily shifts, including Sunday. (One under temporary appointment).

1	Master Mechanic	In charge of shops and of repair to heavy road machinery.
1	Blacksmith	General blacksmith work, including shoeing of horses in shop, overhauling and repairing tools and equipment.
1	Master Painter	General shop work including painting equipment and buildings.
5	Laborers	Teaming, freighting, assisting mechanics and miscellaneous work at headquarters. (One resigned July 5, 1923.)
1	Steward and Master of Transportation	In charge of all transportation and of storehouses
1	Chief Buffalo Keeper	In charge of tame buffalo herd.
2	Asst. Buffalo Keepers	In charge of hay ranch operations at Slough Creek; 1 assisting Buffalo Keeper.
1	Master Plumber	In charge of general plumbing and water and sewer systems.
1	Auto Mechanic	On duty at power plant.
1	Machinist	Repairing equipment.
1	Carpenter	Repairing buildings at headquarters.
1	Chief Park Ranger	In charge of ranger force.
1	First Asst. Chief Park Ranger	In charge of Northern District.
2	Assts. Chief Park Ranger	1 on duty at Lake District; 1 in charge Chief Ranger's office.
10	Park Rangers	Patrolling, handling tourist traffic, protecting game, policing up stations, repairing trails and bridges, fire lookout work, and miscellaneous duties.

		(One resigned July 31st).
46	Temporary Park Rangers	Patrolling, handling tourist traffic, building trails, fire lookout, lecture, guide, information, on duty in Chief Ranger's office, miscellaneous duties. (One resigned July 31st).
11	WAE Park Rangers	In charge of stations, patrolling, motorcycle, miscellaneous duties.

Leaves of Absence

Deate T. White, Foreman, July 9 to July 18, incl., 9 days.
Floyd Marriott, Laborer, July 9 to 12th, incl., 4 days.

RESIGNATIONS

Clinton S. Ferris, Park Ranger, $100 per month, temporary, plus increase of compensation, and quarters, effective July 31, 1923.

George Webb, Park Ranger, $1200 per annum, and quarters, plus increase of compensation, effective July 31st, 1923.

Roy X. Gray, Laborer, $1140 per annum, and quarters, plus increase of compensation, effective July 5th, 1923.

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In addition to the regular employees listed above under appointment, the following were employed temporarily by the day (approximate):

	July 1st	July 31st
Truck Drivers	14	13
Plumbers	4	4
Foremen	26	27
Skilled Laborers	9	9
Special Laborers	7	7
Carpenters	3	4
Two-horse teamsters	39	54

Laborers	70	125
Irrigators	4	4
8-Horse Teamster	1	1
Cooks	29	33
Gradermen	5	7
Axemen	4	4
4-Horse Teamster	22	32
Rough Carpenters	4	3
Waitresses	3	4
Linemen	2	4
Blacksmith	1	1
Horseshoer	1	1
Mechanic	1	1
Horseshoer's helper	1	1
Painters	2	4
Painter's helpers	3	4
	255	347
Appointees	110	109
Total	365	456

III. WORK COMPLETED

(B) Maintenance and Repair of Physical Improvements

Sprinkling: One hundred and seven miles of the loop road was sprinkled twice daily during the month, except after rains, when the teams were used to haul road drags. Two auto-truck sprinklers, two two-horse sprinklers and sixteen four-horse sprinklers were operated. A crew of four men maintained and made improvements to the system. Six hundred feet of new flume was built at a place one mile from the Natural Bridge towards West Thumb, and the supply tank moved to a new location. At the Natural Bridge a new flume 130 feet long was built. The supply tank opposite the old ranger station at the Lake was replaced by a new redwood tank of 1600 gallons capacity and 140 feet of new flume constructed. The crew worked five days at Otter Creek endeavoring to increase the water supply by cleaning and repairing the ditches.

At the tank below Beryl Spring, the supply pipe which crosses the river was suspended to a cable several feet above the high water mark, to avoid difficulty exper-

ienced in the past making connection when the river is high.

A new 1600 gallon redwood tank was installed to the rear of the storehouse at Madison Junction.

Mammoth Soution: The roads in this section were graded several times during the month. Gravel was placed where needed on rough sections and considerable work was done in the Gardiner Canyon, removing from the roadway, rock and earth which slides off the hillsides and cliffs after each rain. The average crew for the month was three teams and five men.

Loop Roads: Two men with one team were stationed at each of the following sprinkling camps to care for the roads in those sections: Beaver Lake, Gibbon Meadows, Madison Junction, Excelsior Geyser, Spring Creek, Dry Creek, West Thumb, Lake and Trout Creek.

Canyon Section: An average crew of four men and two teams worked on this section during the month. The roads were graded several times and several short stretches were graveled.

Dunraven Pass Section: This section and the Mt. Washburn road were maintained during the month by a crew of six men and three teams. The heavy storm which occurred on the evening of July 22nd washed out a large fill on the Dunraven Pass road and filled two concrete culverts with rock and gravel. The fill has been replaced sufficiently wide to allow cars to pass over and one of the culverts has been cleaned out. The crew is now working on the other culvert in order to have it open before another rain occurs.

Tower Falls Section: Four men and two teams were stationed on this section. Besides doing general maintenance work they graveled 6000 feet of road between Camp Roosevelt and the Needles.

Blacktail Deer Creek Section: The crew of four men and two teams on this section did general maintenance work and graveled 3000 feet of road.

Cooke City Road: A crew of four men with three teams began repairing and grading the Cooke City road on July 2nd. Eleven culverts were rebuilt and the road graveled from the top of the grade above the Yellowstone River to

Soda Butte Ranger Station.

West Gallatin Section: A crew of 8 men and 3 teams moved to this section July 5th and established camp at Specimen Creek. The road was graded and improved from the Park boundary line to Bacon Rind Creek, and on July 19th the camp was moved to the divide between the Gallatin River and Grayling Creek watersheds.

Virginia Meadows Section: General road maintenance was begun on this section July 5th with a crew of four men and two teams. This crew also graveled about one-half the length of Blanding Hill.

East Entrance Road: Three small crews are stationed on this section of road; 3 men and 2 teams at Turbid Lake; 4 men and 3 teams at Cub Creek; and 4 men and 2 teams at East Entrance. Besides general maintenance work, several short stretches of road were graveled.

Shoshone Forest Road: This section is maintained by a crew of 7 men and 3 teams at Goff Creek and 2 men and 1 team at Elk Fork.

The unusually severe storm which occurred on the evening of July 22nd caused great damage to the roadway and bridges. One cloudburst occurred in the vicinity of Ptarmigan Mountain, part of the flood came down Canyon Creek and part down Clocktower Creek. At Canyon Creek the roadway was covered for three hundred feet with mud and boulders to a depth of several feet. A temporary bridge and a detour road was hastily constructed. At Clocktower Creek the log and timber bridge was carried completely away and the roadway covered with mud and boulders for a distance of 1/4 of a mile. A temporary bridge was built and a detour road constructed about one mile in length.

At Elk Fork two sections of the log diversion crib were carried away which permitted the force of the current to hit the east concrete abutment of the hundred foot steel bridge. Twenty feet of the approach fill was carried away and the abutment was undermined, resulting in a settlement of 18 inches to the upper end. A temporary bridge was placed over the washed out section.

At Clearwater Creek all the log crib work constructed last spring was carried away. The upper end of the east abutment and the lower end of the west abutment to

the concrete bridge were undermined.

Between Clearwater and Gunbarrel Creeks several hundred yards of gravel was washed onto the roadway, in some places to a depth of three and four feet.

At Gunbarrel Creek the log bridge was washed out and three hundred feet of roadway covered with mud. A temporary bridge was constructed and the mud removed.

Although little damage was done at Grinnell Creek, logs and trees were piled up against the bridge and water flowed all over the flat, washing off some of the road surfacing.

At several places between the park boundary and Grinnell Creek large piles of gravel, rock and mud were washed onto the roadway.

Due to the excellent assistance rendered by the people of Cody the road was closed for only one day after the storm. On July 25th Foreman White's crew was moved from the Canyon to Hanging Rock Camp and began reconstruction work. All temporary bridges were made safe and detour roads improved. A new log bridge of 18 ft. span and another of 12 ft. span was built at Clocktower Creek. The roadway at that place is rapidly being cleared of mud and rock and will be opened to travel August 3rd.

South Entrance Road: A crew of 4 men and 3 teams stationed at the Lewis River camp maintained this section.

Teton Forest Road: Foreman Conahan with seven men and four teams camped at Lizzard Creek until July 28th, then moved to Pilgrim Creek. The roads were graded, culverts repaired and short sections graveled.

(c) Miscellaneous Improvement Work

The Master Painter and assistants finished the painting of the penstock and the Gardiner fence, both objects being painted National Park Service green. All woodwork on the stone barracks, with the exception of the porch floors, was painted. Parapets at the Canyon and on the Tower Falls road were stained; comfort stations at Mammoth automobile camp were stained; 200 signs painted; danger signs placed on all powder houses; painted roofs of Commissary buildings and four cottages in rear of garage buildings; started roof of storeroom next to Commissary Building and work on Commissary woodwork.

The Master Plumber and his helpers completed the laying of a 4" pipe line which will supply Old Faithful with palatable water; completed one comfort station at Old Faithful and started work on a second; moved the public auto camp across the Gibbon River at Madison Junction and supplied same with water and four toilet buildings; general repairs to water and sewer system at Mammoth (headquarters).

The Steward and Master of Transportation, with four assistants in the storehouse, loading trucks, etc., received and stored supplies, and eight trucks hauled forage, rations and supplies to all points in the park. and one truck hauled gas from the railroad terminal at Gardiner to Mammoth, Canyon, Lake. Lake, Tower Falls and Madison Junction.

The Master Mechanic and his assistants repaired trucks, motorcycles, wagon loaders, air compressor and touring cars.

The Blacksmith repaired wagons and graders and shod a number of horses. The Carpenters did odd repair jobs when necessary but spent most of their time in building and erecting toilets throughout the park.

Headquarters Corral: Four boys kept the lawns about headquarters in shape during the entire month under the supervision of Foreman McFarland; one man with a team worked throughout the month in the Mammoth automobile camps and another man and team at the camp for seven days; one man with team feeding elk the entire month; one man and sprinkler team about headquarters; and one man and team freighting.

The Power Plant was operated in the usual manner, and was run constantly with the results shown in comparison with results for July, 1922, as follows:

	1922	1923
Total current generated in KW hours	15,160	38,720
Of this, sold to public utilities, @ 5¢ per KWH	6,217.54	12,252
Consumed for street lighting	2,403	1,340
Balance, consumed in Government buildings, for power and lighting, lost on lines in transit	6,539.46	25,124
Peak load during month in KW	78	108

The Telephone and Switchboard Office was open daily from 6:30 A.M. to 12:00 P.M. (midnight). The total business handled was as follows:

Switchboard Calls

On Government local lines	14,750
On Hotel Company lines	1,827
On Long Distance Connections	514
Total	17,091

Telegrams

Government sent	161
Commercial sent	394
Total	555
Government received	94
Commercial received	160
Total	250

Office Force

The office force was busy with usual routine work which includes orders, payment of vouchers, preparation of accounts, reports, general correspondence, etc. 3738 pieces of official mail were received and 1928 were sent out during the month.

Sanitation Work

Plans were completed for the sewerage system and disposal plant at Lake Junction. Material is now on the ground and construction can start as soon as men are available.

The operation of two disposal plants at Upper Basin was checked several times during the month as well as the one at Canyon Permanent Camp.

Reports were completed on future work for the extermination and control of mosquitoes at the various junctions throughout the park.

Dr. W. F. Draper, Assistant Surgeon General of the United States Public Health Service, Washington, came into

the park via Gardiner on the 12th and made a tour of inspection of sanitation work in company with Arthur P. Miller, Junior Assistant Sanitary Engineer in charge of Public Health Service in the park. After five days in the park Dr. and Mrs. Draper left via the Gardiner gateway.

Visits of National Park Service Officials

Director Stephen T. Mather arrived on June 29th, and left the park on July 24th. During the month he spent considerable time at Camp Roosevelt but made one complete inspection of the park loop road system, visiting all hotels and permanent camps. He gave particular attention to the fire hazard at the Lake Hotel and studied traffic conditions at Tower Falls, where there is considerable congestion.

On July 20th, with Editor A. E. Demaray and Engineer A. W. Burney, the Director inspected the road between West Yellowstone and Ashton, and between Ashton and the Bechler River Ranger Station. At the Bechler River Station Messrs. Mather and Demaray were joined by Ranger A. T. Bicknell, who conducted them up the Bechler River Canyon, over the Continental Divide and down to the Shoshone Geyser Basin, thence to Old Faithful Inn, which they left on the afternoon of July 22nd. The Director planned to visit the Gallatin region but did not have time to do this.

Mr. A. E. Demaray, Editor of the National Park Service, arrived in the park via West Yellowstone on July 19th and left on July 30th. Mr. Demaray attended the Howard Eaton Trail dedication, made a complete inspection of the loop road system, visited the Bechler River country and conferred with me at headquarters on various matters. He entered and left the park via West Yellowstone.

Landscape Engineer D. R. Hull arrived in the park on July 16th and left on the 25th, entering and leaving via West Yellowstone. Mr. Hull conferred with me and with the officers of the various utilities and inspected all work in progress. He spent considerable time with the President of the Camps Company, working on plans for an immense new central structure to be erected at the Old Faithful permanent camp. Mr. Hull layed out this work and he and I approved the site for the new building. At the Lake Fish Hatchery he conferred with officials of the Bureau of Fisheries and me with regard to the new hatchery.

Mr. Hull also inspected the route of the new Soda Butte telephone line and layed out the work with particular reference to the preservation of landscape. He also inspected and approved the new Soda Butte Ranger Station erected last autumn.

He conferred with me on many minor problems that need not be mentioned here.

Mr. Hull's assistant, Mr. Thos. H. Vint, reached the park about the 23rd and left with Mr. Hull, going to Rocky Mountain Park. Mr. Vint inspected all of the permanent structures of the park and I am sure benefited very greatly by his observations of the big operations here. He undoubtedly has the Yellowstone landscape problem quite well in hand now.

Messrs. Hull and Vint were accompanied by Mr. G. S. Underwood, architect for the Union Pacific System, on a tour of inspection made by Messrs. Hull and Vint on July 21st, 22nd and 23rd.

(d) Service to the Public

Guide Service: Ranger guides conducted regular and special parties over the formations at Mammoth and Old Faithful. There were four parties each day from the hotels and camps.

At Old Faithful, 5,295 people were taken from the hotel and 8,237 from the permanent camps. There were 40 in special parties, making the total 13,572 as compared with 10,825 last year.

At Mammoth, 1,879 were taken from the hotel and 2,994 from the camps, and 207 in special parties, making a total of 5,080 as compared with 4,878 last year.

This gives a total of 18,652 against 15,703 last July.

Information Office: During July a total of 14,589 people visited the Information Office and Museum at headquarters. The figure last year was 12,462, showing an increase this year of 2,127.

During the month one additional man was assigned to duty in the Museum from 7:00 to 10:00 P.M. This man

is instructed to interview the tourists, find out their views regarding the park, and explain the exhibits to them. This was done at the suggestion of Director Mather.

Below is a detailed statement showing the record of the Information Office at Mammoth. In addition to literature distributed in this office stations in the park have distributed a total of about 30,000 free publications.

Article	Number 1922	Price	Number 1923	Price
Haynes	114	85.50	480	360.00
Portfolio	407	407.00	274	274.00
Trees and Flowers			88	66.00
Pronghorn			13	3.25
Bulletin #611	13	6.50	8	4.00
Bulletin #612	12	6.00	5	2.50
Western Map AAA	1	1.00	17	13.60
Transcontinental Map AAA			4	8.00
Glimpses	84	8.40	356.	35.60
Geological Histories	435	43.50	857	85.70
Geysers	357	35.70	734	73.40
Fossil Forests	194	19.40	445	44.50
Whitebar Elk			61	15.25
Fishes	73	3.65	175	8.75
Truthful Lies	76	19.00	82	20.50
Panoramic Views	46	11.50	23	5.75
U. S. G. S. Maps	61	15.25	64	16.00
Foolish Questions			28	14.00
Totals		$ 662.40		$ 1,050.80

In addition to the above regular services, rangers did a large amount of work in locating lost parties, delivering telegrams and letters, returning lost articles to owners, etc.

IV. WORK IN PROGRESS

(a) Construction of Physical Improvements

Canyon Public Automobile Camp Water System: In connection with this job, a reinforced concrete reservoir 24 feet square and 6 feet high was constructed. The concrete dam

across Cascade Creek was finished except for placing the two 24" sluce gates. The concrete pump house 10 feet wide and 17 feet long was finished except for the roof.

Canyon Public Automobile Camp Comfort Stations: The four comfort stations on which work was begun in June were finished with the exception of placing the concrete floors and plumbing fixtures. These buildings are each 12 feet by 22 feet and are of the combination type.

Wall and Parapets: The masonry retaining wall which is under construction along the roadway at the south approach to the Canyon Arch Bridge was extended a distance of 275 feet during the month. 3577 perch of masonry was laid.

As the crew engaged in building log guard rails was very small not much was accomplished. On the Inspiration Point road, 57 log posts were hauled and placed and logs for rails were gotten out and peeled.

Roads Improvements: A very noticeable improvement has been made to the road between Obsidian Cliff and Norris by widening some of the sharp curves. The dangerous rock point opposite Beaver Lake was blasted off and the roadway widened to 24 feet at the curve and 20 feet each side of the curve. Two sharp curves between the 14 and 15 mile posts were widened, also two others between the 18 and 19 mile posts.

Half way up the Blanding Hill on the Norris-Canyon road a rock point was blasted off and the roadway widened ten feet on the curve.

The entire road across Elk Park was gravelled to a depth of 6 to 8 inches, loose, wet and rolled with a steam roller. The gravel was secured in the pit back of Norris Ranger Station. One of the mechanical gravel loaders was used for loading.

Trails: Six men were employed during the month for trail construction and repair work. In addition to this, rangers on patrol did the usual amount of repairing and maintaining of trails.

The section of the Howard Eaton Trail from Golden Gate to Apollinaris Spring was completed and the entire trail was gone over and repaired. Assistant Chief Ranger Trischman blazed out the route for the new trail from Lava Creek to

Canyon via Grebe lake . This will make it possible for saddle horse parties to make the trip from Canyon to Mammoth in one day.

New Trails constructed	6 miles
Old Trails repaired	151 miles

During the month of August it is anticipated that the trail from Apollinaris Spring to Norris will be built, this being the last link of the Howard Eaton Trail. A trail from Lava Creek to the Canyon will be constructed, and several short trails in the vicinity of the Canyon. The Riverside and Mary Mountain Trail is to be repaired.

Improvements by Park Utilities

Yellowstone Park Camps Company:

During the month of July the Yellowstone Park Camps Company completed a unit of ten new cottages at Mammoth Camp. On July 4th the new recreation pavilion in the main building at Mammoth Camp was formally opened. This recreation hall has a seating capacity of one thousand; and 300 couples can dance on the floor at one time.

At Old Faithful Camp, Lake Camp and Canyon Camp a series of small additions in the shape of sleeping lodgings was completed.

By July 1st all the camps were fully equipped for capacity business.

Yellowstone Park Hotel Company:

Old Faithful:

New pressure pump installed for water system.
New Hot water heater installed
Third boiler completed and put into operation.
Girls' dormitory completed and occupied
New power line started for Mess House and Bunk house.
New girls' laundry and store room started and three quarters completed.

Lake:

Second and third floors of new wing furnished and used.

First floor finished except for painting and hardware.
Connection between old and new buildings completed except for installation of elevator and plastering and flooring.
Addition to boiler room completed except for inside finish.

Telephone System: Built four miles new line on Yellowstone Branch
Two miles of 2 new wires strung on line from Firehole Cascades to Madison Junction.
Moved 1-1/2 miles 4-wire telephone line from Mammoth Camp to hills back of Mammoth

During the past winter the following work was done of which there is no mention made in the Yellowstone Park Hotel files, according to their memorandum:

New lavoratories installed in 90 rooms at old Mammoth Hotel.
153 rooms in the old part of the Lake Hotel re-wired and new lighting fixtures installed.

Yellowstone Park Transportation Company:

Lake: Mess house completed and now being used
New wash room for drivers started and about three-quarters completed.

Canyon: Wiring in drivers' new Bunk House completed.

Mammoth: Erection of six 16 x 30 tents for the accommodation of hired car drivers.

VII. POLICIES

Effective August 1st, gasoline in the park was reduced from 35¢ to 32¢ per gallon at Mammoth Hot Springs, and from 40¢ to 37¢ at Old Faithful, Lake, Canyon, Tower Falls and other points in the Upper Park.

Effective August 1st, orders were issued for the cars of the Yellowstone Park Transportation Company on the

Jackson Lake run to stop for luncheon at Amoretti Inn instead of at Sheffields.

VIII. COST OF OPERATION

The cost of operation of Yellowstone National Park will be shown on the Cost Accounting Report for the month of July, which report will be forwarded as soon as compiled.

IX. OTHER MATTERS OF INTEREST

Wild Animals

There is but little to report regarding wild animals as the great majority of game will be found at the highest elevations where plenty of grass is available. As a result of this fact they are seldom seen and very little attention is paid to them at this time of the year aside from patrols for their protection.

All game animals are in excellent condition. Elk, deer and moose can be easily found by those who take the trouble to hunt them out. The only time they leave the timber and come out in the open is between sunset and sunrise and there is but little opportunity to see large game during the day.

The bears are more numerous than ever this season and from twenty to thirty visit the dump at Canyon each evening, and several at other sections in the park.

The "hold-up" bears are working in several places throughout the park. We have reports of several people being bitten while feeding bears but so far as we have been advised no ill effects have resulted. However, it has been observed that each incident of this kind has been due to extreme carelessness on the part of the tourist. It is apparent that the greater number of visitors regard the bear in the same light as a dog or other domestic animal and are as careless in their manner towards the bear as they might be to a dog.

On July 30th First Assistant Chief Ranger Trischman rode in from the Canyon over the route of a proposed new trail and saw 300 elk, 3 moose, 3 deer, 27 antelope and 3 bears. All were in excellent condition.

Park Ranger J. A. Wells, in charge of Hellroaring Station, reports having seen 12 mountain sheep and 9 kids.

Park Naturalist

The time of the Park Naturalist during July was occupied as follows:

July 1 and 2, in company with the party of Dr. J. C. Merriam of the Carnegie Institution of Washington.

July 3 to 15, museum and other work in and near Mammoth.

July 16 to 26, establishing new lecture series at Old Faithful.

July 26 to 31, museum and other work in and near Mammoth.

Museum and Information Office. A fine painting of Zion Canyon, loaned by Director Mather, was framed and hung for a few days in the Information Office. The enlarged photograph of Howard Eaton used at the Howard Eaton Trail dedication, has been donated to the Museum by Mr. Jack Haynes. A map prepared by the Bureau of Fisheries, showing the distribution of the trouts in the Park, has been framed and hung in the Museum.

Natural History Observations. Due probably to the cool weather in June, the migration of the animals to the higher levels this season has not been as complete as usual. Elk have been observed near the main roads fairly frequently throughout the month, and even a few moose have been reported. Most of the birds have long since finished their nesting, so that their songs are now less often heard. The young osprey in the canyons are beginning to fly. The spring flowers, although remaining in bloom until later than usual, are now all past. The most striking kinds now in bloom are the rayless coneflower, the stickleaf, the fringed gentian, the larkspur, the monkeyflowers, the lupines, fireweed and a number of composites.

Thermal Phenomena. A slump on the face of Jupiter Terrace, and a change in the activity of a large hot spring at Norris Geyser Basin, were reported in special memoranda to the Superintendent, under dates of July 5 and July 7. No further changes have taken place at Jupiter Terrace, except that the travertine over which the water has ceased to flow is rapidly hardening. The spring at Norris Geyser Basin continues its active boiling, but has become much less muddy.

being now rather bluish-milky.

Lecture Serving. The lectures at Mammoth have continued before good crowds, and much satisfaction is expressed at the work of Mr. Cribbs. During the month a series of lectures on the discovery and exploration of the Park was started at Old Faithful. This work is being carried on by Temporary Rangers Sager and Landsdowne. As a beginning, it may be regarded as fairly satisfactory. One talk is given each evening, at the recreation hall of the permanent camp, and visitors at the hotel and the automobile camp are invited to attend. Some very good crowds have turned out.

Special Visitors: Special attention has been paid to visiting scientists. The trip of Doctor Merriam and his party has already been mentioned. Several entomologists visited the park during the month. They included Dr. C. T. Brues of the Bussey Institute, Dr. E. S. Melander of the State College of Washington, E. L. Bell of Flushing, N. Y., and Mr. J. C. Evenden of the United States Bureau of Entomology. Personal assistance and such facilities as are available were offered to these men. Two parties of students entered the Park during the last few days of the month; one a group of botany students from the University of Chicago under the direction of Dr. George D. Fuller and the other a party of geology and botany students from Earlham College, Indiana, under Dr. A. D. Hole and Dr. M. S. Markle. These parties are receiving special attention both from the Park Naturalist and from Park Lecturer Cribbs.

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The following memorandum submitted to me by Park Naturalist Thone accurately describes the changing activities in Norris Geyser Basin and the partial breaking away of Jupiter Terrace.

An examination was made of the reported changes at Norris Geyser Basin during the afternoon of July 6th, and Ranger George Webb was requested to supply information regarding occurrences before that time.

The changes reported seem to have occurred, or at least to have begun, during the night of July 4-5. They have affected Hurricane Spring, together with a small, very active hot spring in a crater-like depression immediately to the north of Hurricane Spring and a formerly quiescent hot pool to the northeast.

Ranger Webb reports that on July 5 Hurricane Spring was almost entirely empty and dry, only a little water remaining in the deepest part. It has since recovered its former activity, although the water in the crater is still about a foot below the usual level.

The spring in the crater-like depression is now somewhat more active and a great deal muddier than it was earlier in the season. Ranger Webb states that at about 3:00 P.M. on July 5 it produced a brief eruption, playing to a height of about twenty feet.

The formerly quiescent hot pool, which was of a greenish color before the changes here reported, is now actively bubbling to a height of 6 or 8 inches and is very muddy. The center of ebullition lies along a line about eight feet long, some ten feet out from the south margin of the pool. There are three very active jets in this line, with a smaller, less active one about five feet to the east of the group of three. Ranger Webb states that on July 5 there was also active ebullition in the southwest corner of the pool, close to the margin. When observed, this part of the pool showed only a little, very faint activity. The area of the pool is enlarged somewhat over its former size.

The temperature of both the crater spring and of the muddy pool was between 88 and 89 degrees Centigrade.

Between 6:30 and 7:00 P.M. on July 4, 1923, a large amount of unconsolidated travertine, which had formed part of the new and unusually rapidly built terraces on Jupiter Terrace, Mammoth Hot Springs, became detached and slumped to the bottom of the formation, spreading across the road for a distance of approximately 130 yards to a depth of about an inch, and throwing a considerable quantity of its material into the water reservoir.

The hole left by the slumped material is approximately twenty feet wide, forty or fifty feet long, and of irregular depth, approximating three feet on the average. To the material from the initial slump must be added that carried down by the landslide it caused. The top of the break is about thirty-five or forty feet below the upper rim of the formation. Several long, narrow cracks now run through the face of the terrace, extending into the consolidated and dry material at the sides. The most notable one is a long horizontal crack extending almost entirely across the front of the terrace. There are also several long vertical cracks

and a number of minor ones. Several of the "pulpits" or small terraces recently formed are cracked and apparently loose; they may slump later on.

The water from the springs on the summit, which had been spreading uniformly over the newly formed terraces, now flows to a large extent through the gap left by the slump, and the new terraces are drying up. The thin flow over the older material at the sides is also much diminished. There is no apparent diminution, however, in the amount of water produced in the springs at the source.

No changes of any nature can be observed in the neighboring terraces; Pulpit, Mound, and the small unnamed new terrace behind and above Jupiter Terrace. The disturbance appears to have been strictly a local one, and was due probably to the accumulation of new travertine until a mass had gathered which was beyond the sustaining power of its own strength. There is no good evidence to support early reports that there was an explosion or eruption.

Diseased Forests

On July 5th, Jas. C. Evenden, Forest Entomologist, of the Bureau of Entomology, made his second visit to the park to study the parasite attacking the Douglas Fir and Spruce trees. On the 6th he made a trip to Crescent Hill on the Tower Falls Road. He collected many specimens of caterpillar which are defoliating these trees. On the 7th he was accompanied by Assistant Chief Ranger Scoyen and made a survey of the area to determine the extent of the infestation. Specimens were collected on Lava, Blacktail Deer, Ox Bow and Geode Creeks, as well as at Crescent Hill, Tower Falls, Junction Butte, Lamar Canyon and Tower Creeks.

According to these observations the edge of the infestation at present is near the Buffalo Ranch, Haynes Picture Shop at Tower Falls, Crescent Hill, Geode Creek, Ox Bow Creek, Blacktail Cabin and the Gardiner River near Mammoth. Observations made later by Scoyen show that it has reached Mammoth and extended westward to Fawn Creek.

Mr. Evenden is at a loss to identify the pest. He states that it might be the spruce bud worm but this is by no means certain. It is, no doubt, the same insect that is destroying the great spruce forests in Northern Idaho.

The specimens collected were small caterpillars showing a great variation in color. They are classed as insect defoliators. Mr. Evenden stated that there is some hope that the forests will not be killed completely due to the fact that the parasite does not injure the terminal bud. The only solution to the problem is for a natural enemy to destroy the insect, or to spray the trees with poison. The latter would be a difficult problem and the work could only be accomplished through the use of aeroplanes or ballons.

A careful watch has been kept for the moths that result when the insect reaches its adult stage. So far none have been found. Ranger Wells at Hellroaring reports that the caterpillars were exceedingly numerous in the vicinity of his station but at the present time he cannot find a single specimen and there have been no moths. It is to be hoped that some adverse condition may have developed which prevented the adult stage from being reached, thereby preventing further spread.

Fish and Fish Planting

Fishing: Records show that a total of 24,499 fish were taken from park waters during the month of July, and this number does not include fish caught by rail tourists. The number compares with 26,831 caught in July of last year.

Fish Planting: A total of 100,000 fish were planted during July - all Rainbow, received from the Montana State Hatchery at Emigrant.

The plants were made as follows:

July 12	Gibbon River at Virginia Meadows	25,000
July 13	Gibbon River at Gibbon Meadows	25,000
July 18	Nez Perce Creek	25,000
July 16	Secret Valley Creek	25,000
	Total	100,000

The month of August will be featured by the greatest fish planting operations in the history of the park, when approximately 25,000,000 Native Trout will be planted in the streams of the park. This represents 75% of the 33,000,000 eggs collected at the Lake Hatchery.

Arrests and Violations of Law

There were but few arrests in the park in July. Rangers corrected many people for minor infractions of various park regulations. Efforts made during the past four seasons to prevent people from writing their names on the geysers and hot springs are showing results. Not a single person has been reported for defacing geyser formations this season. Rangers have handled some cases themselves but none were considered serious enough to warrant trial before the United States Commissioner.

The most important case before the Commissioner was a case involving violation of the prohibition laws. A party of young men from Salt Lake drove up to Old Faithful Inn, carrying several quarts of whiskey, and started to put on a party, when they were interrupted by rangers who confiscated the liquor and placed the men under arrest. They were tried by the U. S. Commissioner on a charge of possessing and transporting liquor and were fined $100 each and costs.

C. Ackershaw, driver of Y. P. Transportation Company car #419, a private car operated by the Transportation Company, was ordered from the park because he ignored speed limits of 15 miles per hour at Old Faithful and Lake, and due to complaints received from tourists stating that he drove recklessly on park roads.

Oscar Denham, driver of Transportation Car #185, was removed from the park for being insolent to park officials.

Mrs. Dunn, an employee of the Camps Company, was ordered out of the park on a charge of being a petty thief.

The following trials were held before U. S. Commissioner Meldrum:

July 5th. United States vs. Hunter Goodrich, Milwaukee, Wisc., exceedingly park speed regulations. Arrested by Ranger Sprinkel. Tried, found guilty and fined $20.00 and costs amounting to $5.50.

July 9th. United States vs. Philip Pretz and Alexis Thielens, Sound Bend, Indiana, violating park speed regulations. Tried, found guilty and fined $20.00 and costs amounting to $5.50.

July 15th. United States vs. Harry L. Bracken, Salt Lake City,

charge of reckless driving. Arrested by Ranger Kocher. Discharged.

July 15th. U. S. vs. A. O. Madsen, Morehead, Minnesota, exceeding park speed regulations. Arrested by Ranger Rhodes. Tried, found guilty and fined $25.00 and costs amounting to $5.50.

July 14th. United States vs. Joe Mibley, Chick Suttle, Dave Knight, Fred Ballin, Bob Ellis, illegally possessing and transporting liquor. Arrested by Ranger Robertson. Tried, found guilty and fined $500 and costs amounting to $5.50.

July 16th. United States vs. D. B. Elledge, exceeding the park speed regulations. Arrested by Ranger E. Matthew. Tried, found guilty and fined $15.00 and costs.

July 19th. United States vs. Vernon Spencer, arrested November 7th, Cody, Wyoming. Hunting in the park. Arrested by Ranger Wisdom. Tried, found guilty and fined $25.00 and costs amounting to $5.50.

July 23rd. UnitedStates vs. Casper Zwierlein, violating the park speed regulations. Arrested by Ranger Sprinkel. Tried, found guilty and fined $15.00 each and costs.

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In addition to these trials the following cases are pending:

Y. P. Transportation Co. Bus driver #51, charged with speeding.
J. T. Benjamin, Reckless Driving.
G. W. Hendershot, speeding.
E. H. Helfrin, speeding.

Forest Fires

On July 3rd a small fire was discovered in the park about one quarter mile south of the West Yellowstone checking station. It was detected shortly after it started and rangers from the checking station, assisted by a few residents of West Yellowstone, brought it under control after it had burned over an area of a few hundred feet square.

It is thought that the fire started from a spark made by fires on which Union Pacific crews were burning rubbish.

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On July 5, 1923, a fire was discovered behind Twin Buttes, and about six miles west of Fountain Ranger Station. The fire was discovered by Park Ranger Delmar about 10:00 A.M., from Mammoth Paint Pots. He took one other man and started at once for the scene. The fire was giving off very little smoke and was very hard to locate, and it was some time before they could find it. By night they had the blaze well under control and the next day Ranger Delmar returned and put it out completely.

The fire covered an area of about two acres and was started by lightning.

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On July 8th a fire was reported on the East side of the Yellowstone Canyon, between Deep and Burnt Creeks. Chief Ranger Woodring left Tower Falls Station the same evening with three other rangers. The fire was in one of the most inaccessible sections of the park and it was only after a hard ride lasting all night that the fire was reached. By the next evening the fire was apparently completely out. Three days later it broke out again and it was necessary to send three men back. They remained at the scene for two days. A heavy rainfall two days after they left put out what few sparks that may have been burning under ground.

The fire burnt over an area of several acres.

Accidents and Casualties

An increase of about 50% in private auto travel has resulted in an increase in the number of accidents in the park. Although there have been numbers of minor collisions and other accidents there have been no serious results.

Below is a summary of the more serious accidents:

Accident on Tower Falls Road (Yellow Bus):

On July 9th Yellowstone Park Transportation Company Bus #130, driven by Geo. W. Nickerson, bound from Tower Falls

on what is known as the "Hairpin Turn". The car went over a fifteen foot embankment but did not turn over until it reached the bottom. All the passengers were thrown out on the downhill side and there being a great many fallen trees, stumps and rocks below the road, they were all scratched and bruised, although none were seriously injured. The car remained upright until it struck a tree, when it turned over on its side with the seats facing uphill.

There was considerable testimony to the effect that the driver drove recklessly. Mr. Thomas stated that at the Needles the driver dropped the steering wheel and pulled off his gloves, allowing the car to go within ten inches of the edge before he turned the car back on the road. Statements by members of the party that the driver drove at a rate of speed close to 30 miles per hour should be ignored as the car was running on regular schedule which does not average over 15 miles per hour.

Accident on Tower Falls Road (Private car):

On July 18th a Ford car, driven by Perry Stickler, Taft, California, ran off the road about four miles from Mammoth on the Tower Falls Road.

Mr. Stickler was coming down grade, traveling towards Mammoth, when a Buick car driven by a man from Denver, Colorado, attempted to pass him on a dangerous section of the road. Although there was room for two cars to pass, Mr. Stickler became excited and drove too close to the edge and his car went over. The road at this point is narrow, the grade steep, and about fifty yards ahead is a bad turn. In our opinion the driver of the Buick car violated section 8 of the Automobile Regulations, which does not allow cars moving in the same direction to pass on dangerous grades.

The passengers in the car were: Mr. Stickler, wife and three children. Mrs. Stickler suffered internal injuries, and was removed to Mammoth Hotel where she was treated by Dr. Morrisey. She remained under his care until July 24th when she was discharged. None of the others in the car were injured.

Mr. Stickler met the driver of the Buick car and accepted $100 damages. As the accident was partly caused by the driver of the Ford car becoming excited we did not think it necessary to take any further action in the matter. Besides the damages, collections were taken up by tourists at Mammoth Hotel totalling $136.00, and at the Camp, $44.00.

Accident at Gibbon Falls:

Mr. G. E. Evans and party in Idaho car #27945, parked their car in the curve at Gibbon Falls and left it there while they viewed the Falls. F. Vause, driving Utah car #18138 came around the curve and just as he was even with the parked car Mr. Evans' little girl ran out in front of the Utah car. She was struck and dragged about three feet before the car could be stopped. She was taken to Madison Junction Ranger Station and as Dr. Wolfe was not available Dr. Morrisey was called.

The girl's face was torn and scratched and her ear was torn loose for about a half inch. The doctor took her to Old Faithful for treatment.

Witnesses say the accident was unavoidable and blamed the girl's father for leaving her alone on the road.

Report of Death:

Miss Elizabeth Weiss, Canton, Ohio, died at 3:30 A.M. July 18th, at the Lake Hotel, of apoplexy. The attending physician was Dr. J. A. Schwack of Canton, Ohio, and shortly before death occurred Dr. C. L. Sixard, Stockton, California, was called.

The body was forwarded to Mammoth the same day and was taken in charge by G. Walter Selby, Undertaker of Livingston, Montana.

Others in the party were Miss Dora Leiser and Dr. Schwack.

Special Visitors

Attorney C. B. Wilson, Flagstaff, Arizona, visited me at my office and talked over Grand Canyon and Bright Angel Trail matters. Mr. Wilson came in Cody on the 21st and left by the same gateway on the 25th.

Mr. David Jetzinger, Chicago Lawyer, came in via the Gardiner gateway on the 17th and left via the same gateway on the 22nd.

Hon. A. J. Sabath, Congressman from the Fifth Illinois Dis-

trict, came in via the Gardiner entrance on the 18th and went out on the 22nd.

Mr. H. H. Westinghouse, of the Westinghouse Air Brake Company, New York City, in Gardiner on the 13th and out the same gateway on the 19th. Mr. John F. Miller accompanied Mr. Westinghouse.

Lieutenant General S. B. M. Young, arrived on July 13th, having entered the northern entrance, and left on the 19th, via the same entrance.

Mr. H. J. Cox, Meteorologist, Weather Bureau, Chicago, entered via the southern gateway (Lander) on July 15th and left the park via Gardiner on the 17th.

Brooklyn Teacher Association entered the West Yellowstone gateway on the 15th and left on the 19th. A number of the members of this party attended the Howard Eaton Trail dedication on the 19th.

President Carl R. Gray, and Vice President H. M. Adams of the Union Pacific System, entered the park via West Yellowstone on the 15th and left on the 16th.

Hon. Chas. E. Winter, Congressman of Wyoming, entered the park via Lander on the 15th and left via Cody on the 20th. Congressman Winter participated in the Howard Eaton Trail dedication.

Mr. F. R. Goodman, State Engineer of Arizona, entered the park via West Yellowstone on July 13th. Mrs. Goodman accompanied Mr. Goodman on the trip and Engineer Burney took them around the park.

Mr. Jas. C. Evenden, from the Bureau of Entomology, Washington, spent several days in the park making a study of the insect infestation of our trees.

First Assistant Postmaster General John H. Bartlett, Mrs. Bartlett and their son, together with Third Assistant Postmaster General W. Irving Glover, Mrs. Glover and son, entered the park via Gardiner on the 13th, and left via Cody on the morning of the 16th. I personally accompanied this party around the park, and have sent in a complete report of the visit of these officials.

Congressman Scott Leavitt, of Montana, entered the park via the West Yellowstone gateway on the 7th and left via Gardiner on the 8th.

Vice President C. E. Spens, of the C. B. & Q. Ry., came in Cody on the 5th, and went out via Gardiner three or four days later.

President H. E. Byram, of the C. M. & St. P. Ry., visited Yellowstone Park for the purpose of studying the possibilities of establishing transportation service between the terminus of the Milwaukee line at Salesville, a few miles south of Bozeman and the park road system. He left via the Gallatin Valley in order to inspect road conditions. He expects to send engineers into the park in September for the purpose of looking over a possible route for a new road across the Gallatin Mountain. I am officially opposed to the running of a new road across the Gallatin Mountains and of course there is no possibility of our getting any government money to build such a road. It appears, however, that there is a possibility of the C. M. & St. P. Ry. offering to build this road with its own funds in order that that they may gain quick access to the loop road system of the park. The new transportation line between Lander and Moran connected with the Chicago Northwestern has not been a success and I do not believe that any service established in connection with the C. M. & St. P. would be any more successful.

Senator T. S. Walsh, of Montana, visited the park with certain prominent citizens of Livingston for the purpose of discussing with me ways and means of securing improvements to the North approach road. A special report on Senator Walsh's visit has already been made to your office.

Mr. Joy E. Morgan, Editor Journal National Educational Association, came in via Gardiner on the 28th and went out via the Cody entrance on August 1st.

Dedication of Howard Eaton Trail

On July 19th, between the hours of 1:30 P.M. and 4:00 P.M., the Howard Eaton Trail was dedicated by appropriate ceremonies held at Sheepeaters Cliffs on the Gardiner River, seven miles south of Mammoth Hot Springs. The Sheepeaters Cliffs site is a very picturesque place where Howard Eaton always made his first camp after entering the park. The cliffs are of columnar basalt and it was at the foot of thesebasaltic columns that the ceremonies were held.

I enclose a few photographs that will give you an idea of the setting. There were between four and five hundred people present at the ceremonies. Among them were one hundred and ten members of the Brooklyn Teachers' Ass'n, party. The following members of the Howard Eaton family came over from the ranch to attend the ceremonies:

Mr. and Mrs. Alden Eaton - brother and sister-in-law.
Willis Eaton, brother
Mrs. Mary Gillispie, Sister
Mrs. John Fleming, Sister.

There were also some more distant relatives in the party. The party also included Col. Henry Hall of Washington, D. C., and Ted Rinehart, son of Dr. and Mrs. Stanley N. Rinehart, who represented is father and mother, and particularly his mother, Mrs. Mary Roberts Rinehart, who made Howard Eaton's trail parties famous.

The arrangements for the ceremonies were in charge of Mr. J. E. Haynes, who was assisted by Mrs. Haynes, Chief Ranger Sam T. Woodring and Assistant Chief Ranger Harry Trischman. The Shrine Patrol from Livingston was present and there was also a delegation from the Order of Elks of Livingston, Howard Eaton being both a Shriner and Elk.

The Superintendent of the park introduced the speakers as follows:

Col. Henry Hall - "Howard Eaton's Life".
Dr. Alexander Lyons of Brooklyn, New York - "Yellowstone Park, a Temple of Democracy".
Dr. Wm. Elbert, also of the Brooklyn Teachers' Association,

"Howard Eaton and His Trail as an Educational Influence".

Director Stephen T. Mather - "Howard Eaton and the National Parks".

Hon. Chas. E. Winter, Congressman of Wyoming - "Spirit of Howard Eaton.

A copy of Congressman Winter's speech has been forwarded to the Washington office. The other speeches will be compiled and distributed later.

At the conclusion of the addresses a tree was planted in the midst of Howard Eaton's camp site by his brothers, Alden and Willis, assisted by Ted Rinehart. When this impressive ceremony was over a trail party, lead by Chief Ranger Woodring, started on the Howard Eaton Trail. A beautiful black horse in the train was riderless, emblematical of the loss of Howard Eaton.

Sickness and Medical Attention

Dr. Jas. M. Wolfe, National Park Service Physician, continued his medical service in the park during the month and reports having made 34 professional calls on park people and received 41 office calls.

Dr. E. J. Morrisey, of San Francisco, arrived in the park the second week in July and served throughout the balance of the month as physician for the Yellowstone Park Hotel Company.

Post Office

Work in the post office was very heavy during the month of July. This was due to the travel which was considerably heavier than ever before, and more especially to the fact that the increase was largely of the private camper variety, which causes much more detail work in the post office than does the class of tourists who go to the hotels and permanent camps. With a force of clerks considerably larger than we had last year we were at times unable to keep the work up to a proper standard and all were obliged to do overtime work to handle the heavy mails. Our general delivery quarters are badly congested and the month's experience has demonstrated to a certainty that we must have more room next year to take care of it.

year to take care of it.

Extended Mail Service in Park: Following the visit of First Assistant Postmaster General Bartlett, and Third Assistant Glover to the park on July 10th to 13th, inclusive, telegraphic authority was received to establish an experimental city delivery service for the benefit of the many tourists who travel with their own camp outfit, and so have no means of securing their mail in the park except by visiting Mammoth Hot Springs where the main post office is located. A small allotment was made for pay of carriers, and hire of automobiles for this service. Some difficulty was had in securing suitable men to do this work, as the season was at its height and everybody who wanted to work was busy. But arrangements were finally made, and on July 28th a daily carrier service was started from the post office to connect with the Ranger Stations of the National Park Service at Norris, Canyon, and Lake Outlet daily, returning twice a week via Tower Falls Ranger Station; and on July 30th a similar service was started from headquarters, connecting with Madison Junction, Fountain, and Upper Basin Ranger Stations. It is now possible for tourists to have their mail forwarded to them at any of the ranger stations named above.

Copy of Circular 1, July 30, 1923, announcing this service, is enclosed.

--- Postmaster C. A. Lindsley.

Religious Services

Protestant church services were held in the Government Chapel every Sunday morning at 10:30 and every Sunday evening at 8:15 during July. The pulpit was filled as follows:

July 1, morning by Rt. Rev. Wm. Faber, Episcopal Bishop of Montana; evening by Rev. Geo. C. Koehler, English Lutheran minister from Livingston, Montana.
July 8, morning Communion Service by Rev. S. D. Hooker, Episcopal Archdeacon, from Helena, Montana; evening by Rev. S. R. McCarthy, Congregational Minister from Livingston, Montana, with special music.
July 15, morning service by Rev. Friend Day Episcopal minister from Emigrant, Montana; evening by Rev. Koehler, English Lutheran.
July 22, both morning and evening services by Rev. Day, with special music.
July 29, morning service by Rev. Day; evening by Rev. Koehler.
Services were also held by Rev. KOehler on two Monday

evenings, July 9 and 23, at 8:15 P.M.

Catholic services were held every Sunday morning except on the 27th, when there was no one in the park who cared to officiate. Services held were as follows:

July 8th	Rev. Matthias A. Thimmes, M.R. Belmont Ave., Newark.	Mass	5:45 A.M.
8th	Rev. I. Kinney, Superior, Wis.	"	6:30
8th	Rev. E. Hunt, Salt Lake City.	"	5:45
11th	Rev. J. J. McNally	"	8:00
11th	Rev. William E. Corr	"	5:45
15th	Rev. Lion Legrain, Pennsylvania	"	5:30
22nd	Rev. H. J. Hogan	"	7:30
22nd	Rev. Geo. T. McCarthy, Chicago	"	9:00

On the suggestion of Director Mather special efforts are being made to interest more people in church services.

Special bulletin boards on easels have been made for use at Mammoth Hotel and Mammoth Camp, where on Saturdays a record of services of all kinds to be held in the Chapel the following day are conspicuously posted. The lecturers at headquarters and Old Faithful announce the services during their lectures Saturday evenings.

Notices have been printed in large, bold type, addressed to visiting ministers of the gospel of all denominations, acquainting them with the fact that there is a fine chapel maintained by the Government at headquarters for religious use, and asking them to participate in the services if they can do so, and these are hung in conspicuous places in all hotels and main buildings of the Camps Company. Conspicuous signs announcing services are also to be provided for the automobile camps just as soon as possible.

The cost of this work is borne by Director Mather personally, who has also provided funds for general church maintenance including cost of transportation for visiting ministers who might be in some other part of the park Sunday morning and desire to get in to headquarters to take part in the services.

Motion Picture Permits

A permit to take moving pictures in the park was issued to Mr. L. M. Lewis, 1308 E 63rd Street, Chicago, Illinois.

IX. RECEIPTS AND REMITTANCES

Certified check #798, dated July 10, 1923, drawn by H. W. Child on the National Bank of Montana, Helena, Montana, to the Director, National Park Service, amount ..... $ 36.48

Certified Check #1271, dated July 10, 1923, drawn by H. W. Child on the National Bank of Montana, Helena, Montana, to the Director, National Park Service, amount 120.65

Certified check #871, dated July 16, 1923, drawn by H. W. Child on the National Bank of Montana, Helena, Montana, to the Director, National Park Service, amount 84.59

Certified check #1635, dated July 6, 1923, drawn by Howard Hays on the Northwestern National Bank, Livingston, Montana, to the Director, National Park Service, amount 147.65

Certified check #1669, dated July 5, 1923, drawn by Howard H. Hays on the Northwestern National Bank, Livingston, Montana, to the Director, National Park Service, amount 89.25

Certified check #707, dated July 7, 1923, drawn by J. E. Haynes on Yegen Bros., Bankers, Gardiner, Montana, to the Director, National Park Service, amount 16.75

Postal Money Order #52234, dated July 7, 1923, drawn by the Postmaster of Yellowstone Park, on the Postmaster at Washington, D. C., amount 7.00

Certified check #4148, drawn by R. H. Young, on the Northwestern Bank, Livingston, Montana, to the Director, National Park Service, amount 40.00

Total $ 592.37

Cordially yours,

Horace M. Albright,
Superintendent.

The Director,
National ParkService,
Department of the Interior,
Washington, D. C.

Enclosures.

JSS

n No. 1030—Met'l.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

MONTHLY METEOROLOGICAL SUMMARY.

tation, YELLOWSTONE PARK, WYO.; month, JULY, 1923., 19 .

te.	Temperature. (Degrees Fahrenheit.) Max.	Min.	Mean.	Precipitation. (In inches and hundredths.)	Character of day.	Sunshine, percentage.
	81	46	64	.01	Clear	96
	82	49	66	T	PtCldy	66
	78	46	62	0	Clear	100
	78	45	62	T	Clear	96
	70	47	58	.06	Clear	82
	79	44	62	0	PtCldy	84
	75	48	62	0	Clear	100
	78	47	62	0	Clear	87
	80	47	64	0	PtCldy	83
	81	46	64	T	PtCldy	69
	82	46	64	.03	PtCldy	78
	82	49	66	.01	PtCldy	82
	74	52	63	.01	Cloudy	26
	80	49	64	0	Clear	81
	78	51	64	.04	PtCldy	58
	79	49	64	.08	PtCldy	72
	76	47	62	0	Clear	100
	83	48	66	0	PtCldy	79
	84	50	67	0	PtCldy	86
	89	50	70	0	Clear	100
	85	56	70	T	PtCldy	59
	81	58	70	.12	Cloudy	43
	80	55	68	.04	PtCldy	51
	79	54	66	.13	PtCldy	53
	69	53	61	.20	Cloudy	7
	76	48	62	0	Clear	100
	81	47	64	.01	PtCldy	72
	79	50	64	0	Clear	99
	79	48	64	0	Clear	100
	74	53	64	0	Cloudy	55
	67	46	56	.21	PtCldy	49
ean	78.7	49.2	64.0	Total. .95		75

ATMOSPHERIC PRESSURE.

(Reduced to sea level; inches and hundredths.)

Mean 29.96; highest 30.35, date 27

lowest 29.53, date 6

TEMPERATURE.

Highest 89, date 20; lowest 44, date 6

Greatest daily range 39, date 20

Least daily range 16, date 25

Mean for this month in

1871	80		89	63	98	62	07	58	16	62					
1872	81		90	66	99	61	08	62	17	64					
1873	82		91	60	00	61	09	61	18	60					
1874	83		92	62	01	67	10	63	19	65					
1875	84		93	--	02	58	11	58	20	62					
1876	85		94	66	03	60	12	57	21	62					
1877	86		95	60	04	58	13	57	22	60					
1878	87	64	96	62	05	60	14	62	23	64					
1879	88	64	97	60	06	61	15	56	24						

Normal for this month 61.5

Absolute maximum for this month for 36 years 96

Absolute minimum for this month for 36 years 30

Average daily excess (+) or deficiency (−) of this month as compared with the normal +2.5

Accumulated excess (+) or deficiency (−) since January 1 +284

Average daily excess (+) or deficiency (−) since January 1 +1.3

PRECIPITATION.

Total this month 0.95; snowfall 0

Greatest precipitation in 24 hours 0.32, date 24-25

Snow on the ground at end of month 0

Total precipitation this month in

1871	80		89	0.56	98	1.15	07	2.20	16	1.94					
1872	81		90	0.99	99	1.42	08	0.73	17	0.41					
1873	82		91	3.15	00	0.80	09	1.85	18	2.14					
1874	83		92	0.98	01	0.92	10	1.72	19	0.80					
1875	84		93	0.99	02	2.29	11	0.97	20	0.65					
1876	85		94	0.99	03	0.55	12	2.37	21	0.93					
1877	86		95	0.57	04	1.11	13	3.14	22	1.45					
1878	87		96	2.09	05	1.38	14	0.36	23	0.95					
1879	88		97	1.11	06	0.64	15	1.77	24						

Normal for this month 1.18

Excess (+) or deficiency (−) of this month as compared with the normal -0.23

Accumulated excess (+) or deficiency (−) since January 1 -2.72

MEAN RELATIVE HUMIDITY (Percentage).

6 a. m., 78; Noon p. m., 34; 6 p. m., 40

WIND.

Prevailing direction South; total movement 4806 miles; average hourly velocity 6.5; maximum velocity (for five minutes) 37 miles per hour, from South on 30

WEATHER.

Number of days, clear 12; partly cloudy 15; cloudy 4; on which .01 inch, or more, of precipitation occurred 13

MISCELLANEOUS PHENOMENA (dates of).

Auroras 0; halos: solar 0, lunar 0

Hail 0; sleet 0; fog 0

Thunderstorms 1,2,4,5,12,15,16,19,21,22,24,

*Frost: light 0; heavy 0; killing 0

Note.—"T" indicates trace of precipitation.

In the autumn frosts are not recorded after the occurrence of "killing," except in Florida and along the immediate coast of the Gulf of Mexico.

E. H. Fletcher, Observer.

Weather Bureau.

8—1650